

may be configured to independently generate its own routing tables without the need for a central routing engine and/or master routing table.”

Moreover, while the Examiner states that the forwarding engine is said to forward routing table information that is received by the router ports to other ports for updating each port with routing information, citing col. 3, lines 43-47, Applicant submits that Civanlar et al. actually teach away from the present invention as set forth in claims 1-4, 7, 15, 17-19, 23, 31, and 34. For example, Applicant submits that Civanlar et al. fail to teach steps such as a) obtaining registration information from a plurality of forwarding engines, b) identifying the plurality of forwarding engines based on the registration information, and c) generating at least one specific forwarding table for at least one corresponding forwarding engine of the plurality of forwarding engines. For example, besides the clear lack of teaching regarding steps a) and b), Civanlar et al. further lack teaching regarding steps c) and d) in that the mere forwarding of configuration data to every other intelligent router port 103 does not disclose the limitations set forth in steps c) and d). Thus, Applicant submits that Civanlar et al. fail to disclose the claimed invention as set forth in claims 1-4, 7, 15, 17-19, 23, 31, and 34. Therefore, Applicant submits that claims 1-4, 7, 15, 17-19, 23, 31, and 34 are in condition for allowance.

The Examiner has rejected claims 5, 6, 21, and 22 under 35 U.S.C. § 103(a) as being unpatentable over Civanlar et al. (U.S. Patent No. 6,078,963) in view of Armitage et al. (U.S. Patent No. 6,374,303). Applicant respectfully disagrees, as set forth in detail below. Applicant notes that Armitage et al. state, in col. 7, lines 56-59, as cited by the Examiner, “The Authentication MEE is used to validate that a neighboring router sending messages defining label switched paths is legitimate in order to protect the network from unauthorized equipment.” However, the teachings of Civanlar et al. do not relate to label distribution in multi-protocol label switching. Thus, Applicant submits that it would not have been obvious to one of ordinary skill in the art to combine the cited references as asserted by the Examiner. Therefore, Applicant submits that claims 5, 6, 21, and 22 are in condition for allowance.

The Examiner has rejected claims 8, 9, 11, 12, 24, 25, 28, and 33 under 35 U.S.C. § 103(a) as being unpatentable over Civanlar et al. (U.S. Patent No. 6,078,963) in view of Callon (U.S. Patent No. 5,430,727). Applicant respectfully disagrees, as set forth in detail below. Regarding claims 8, 9, and 11, the Examiner states that Callon teaches a router is a forwarding device (col. 13, lines 35-37), an internal forwarding table is used to determine the destination address (col. 57, lines 39-44) and the same for external forwarding tables (col. 57, lines 50-55) where the routers know the other routers

within the respective forwarding tables (col. 58, lines 60-65). Applicant respectfully disagrees. Applicant submits that the cited portions of Callon fail to disclose the invention as set forth in claims 8, 9, and 11. For example, Applicant submits that the cited portions of Callon fail to disclose the steps of ^x “obtaining registration information from a plurality of forwarding engines” and “identifying the plurality of forwarding engines based on the registration information.” Furthermore, while the Examiner states that Callon teaches that an internal forwarding table is used to determine the destination address, Applicant submits that the teachings of the cited portion of Callon differ from those asserted by the Examiner. Rather, Callon appears to determine if the IP destination address matches any entry in the level 2 internal forwarding table for the specified or default TOS. Moreover, Callon does not appear to disclose the claim limitations of claims 8, 9, and 11. As another example, Applicant can find no evidence that Callon discloses the step of “forwarding the at least one specific internal forwarding table and the at least one external forwarding table to the at least one corresponding forwarding engine.” Thus, Applicant submits that claims 8, 9, and 11 are in condition for allowance.

Moreover, regarding claim 9, Applicant submits that Callon fails to disclose the step of “generating, as the at least one external forwarding table, a single external forwarding table for the plurality of forwarding engines.” Thus, Applicant submits that claim 9 is in condition for allowance.

Furthermore, regarding claim 11, Applicant submits that Callon fails to disclose the step of “generating, as the at least one specific internal forwarding table, at least one of: a single internal forwarding table for the plurality of forwarding engines, a corresponding internal forwarding table for each of the plurality of forwarding engines, and a corresponding internal forwarding table for each grouping of the plurality of forwarding engines.” Thus, Applicant submits that claim 11 is in condition for allowance.

Regarding claim 12, the Examiner states that Callon teaches of updating tables by level-2 routers which are taught as external type routers above (col. 45, lines 12-15), also the need for a full update in a system with internal and external forwarding tables must be done periodically (col. 52, lines 5-8). Applicant respectfully disagrees. Applicant submits that col. 45, lines 12-15, of Callon do not clearly teach what the Examiner asserts. For example, Callon appears to offer no explanation for the apparently contradictory terms of “fixed” and “manually updated.” Also, the meaning of Callon’s sentence is not clear as it lacks a closing parenthesis. Even if Callon were to teach what the Examiner asserts, Applicant submits that the Examiner’s assertions do not yield anticipation of claim 12. For example, Callon provides no clear evidence that his mention of “tables” in the cited portion would

anticipate “at least one of the at least one specific internal forwarding table and the at least one external forwarding table.” Nor is there clear evidence that would show anticipation of the limitation “based on configuration changes of a network.” Thus, Applicant submits that claim 12 is in condition for allowance.

Regarding claims 24, 25, 28, and 33, the Examiner states that Civanlar teaches all of the above embodiments except an external and internal forwarding table generated by the forwarding engine and forwarded to other devices, but states that Callon teaches that an internal forwarding table is used to determine the destination address (col. 57, lines 39-44) and the same for external forwarding tables (col. 57, lines 50-55) where the routers know the other routers within the respective forwarding tables (col. 58, lines 60-65), and updating tables by level-2 routers which are taught as external type routers above (col. 45, lines 12-15), also the need for a full update in a system with internal and external forwarding tables must be done periodically (col. 52, lines 5-8) as a means to have both external and internal forwarding tables as part of the main database of forwarding information. The Examiner concludes that it would have been obvious to one skilled in the art at the time the invention was made to combine the use of external and internal tables for routing outside of an individual switch to other forwarding engines to further maximize the capabilities of a network router or switch and to separate the table information accordingly to avoid unnecessary path routing. Applicant respectfully disagrees. Applicant submits that neither Civanlar et al. nor Callon, either alone or in combination, would render obvious the claimed invention as set forth in claims 24, 25, and 28. As noted above, Applicant has disputed the Examiner’s assertions, which the Examiner reiterates here with respect to claims 24, 25, and 28. Also, Applicant has also pointed out the deficiencies found in col. 45, lines 12-15, of Callon. Furthermore, Applicant can find no explanation in col. 52, lines 5-8, of Callon as to what is to be updated or how it is to be updated. Rather, Callon merely vaguely mentions “updates,” “full update,” and “incremental update.” Thus, Applicant submits that claims 24, 25, and 28 are in condition for allowance.

For claim 33, Applicant submits that the Examiner has not offered evidence to support the assertion that “Callon teaches an internal and external forwarding table both being used in part of a main forwarding database...” nor how such assertion, even if true, would render obvious the claimed invention as set forth in claim 33. Thus, Applicant submits that claim 33 is in condition for allowance.

The Examiner has rejected claims 16, 20, and 32 under 35 U.S.C. § 103(a) as being unpatentable over Civanlar et al. (U.S. Patent No. 6,078,963) in view of Varghese et al. (U.S. Patent

No. 5,905,723). Applicant respectfully disagrees, as set forth in detail below. Applicant has presented reasons above as to why Civanlar et al. fail to disclose the claimed invention as set forth in claims from which claims 16, 20, and 32 depend. Moreover, Applicant submits that Varghese et al. fail to disclose teachings sufficient to compensate for the shortcomings of Civanlar et al. Thus, Applicant submits that claims 16, 20, and 32 are in condition for allowance.

The Examiner has rejected claims 10, 26, and 27 under 35 U.S.C. § 103(a) as being unpatentable over Civanlar et al. (U.S. Patent No. 6,078,963) in view of Callon (U.S. Patent No. 5,430,727) and further in view of Varghese et al. (U.S. Patent No. 5,905,723). Applicant respectfully disagrees, as set forth in detail below. Regarding claim 10, the Examiner states that Callon teaches a router is a forwarding device (col. 13, lines 35-37), an internal forwarding table is used to determine the destination address (col. 57, lines 39-44) and the same for external forwarding tables (col. 57, lines 50-55) where the routers know the other routers within the respective forwarding tables (col. 58, lines 60-65). Applicant respectfully disagrees. Applicant submits that the cited portions of Callon fail to disclose the invention as set forth in claim 10. For example, Applicant submits that the cited portions of Callon fail to disclose the steps of "obtaining registration information from a plurality of forwarding engines" and "identifying the plurality of forwarding engines based on the registration information." Furthermore, while the Examiner states that Callon teaches that an internal forwarding table is used to determine the destination address, Applicant submits that the teachings of the cited portion of Callon differ from those asserted by the Examiner. Rather, Callon appears to determine if the IP destination address matches any entry in the level 2 internal forwarding table for the specified or default TOS. Moreover, Callon does not appear to disclose the claim limitations of claim 10. As another example, Applicant can find no evidence that Callon discloses the step of "forwarding the at least one specific internal forwarding table and the at least one external forwarding table to the at least one corresponding forwarding engine." Also, regarding claim 10, Applicant submits that Callon fails to disclose the step of "generating, as the at least one external forwarding table, a corresponding external forwarding table for each grouping of the plurality of forwarding engines." Thus, Applicant submits that claim 10 is in condition for allowance.

For claims 26 and 27, the Examiner states that an internal forwarding table is used to determine the destination address (col. 57, lines 39-44) and the same for external forwarding tables (col. 57, lines 50-55) where the routers know the other routers within the respective forwarding tables (col. 58, lines 60-65), and updating tables by level-2 routers which are taught as external type routers above (col. 45,

lines 12-15), also the need for a full update in a system with internal and external forwarding tables must be done periodically (col. 52, lines 5-8) as a means to have both external and internal forwarding tables as part of the main database of forwarding information. The Examiner concludes that it would have been obvious to one skilled in the art at the time the invention was made to have used both the internal and external forwarding tables within the processing module's memory to provide the same type of efficiency in a network as mentioned above while having a reasonable hardware configuration of a processor and a memory unit as part of the physical networking environment. Applicant respectfully disagrees. Applicant submits that neither Pitcher et al. nor Callon, either alone or in combination, would render obvious the claimed invention as set forth in claims 26 and 27. As noted above, Applicant has disputed the Examiner's assertions, which the Examiner reiterates here with respect to claims 26 and 27. Also, Applicant has also pointed out the deficiencies found in col. 45, lines 12-15, of Callon. Furthermore, Applicant can find no explanation in col. 52, lines 5-8, of Callon as to what is to be updated or how it is to be updated. Rather, Callon merely vaguely mentions "updates," "full update," and "incremental update." Thus, Applicant submits that claims 26 and 27 are in condition for allowance.

The Examiner has objected to claims 13, 14, 29, and 30 as being dependent upon a rejected base claim, but states that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant submits that, in view of Applicant's arguments for the allowability of base claims from which the objected claims depend, claims 13, 14, 29, and 30 are now in condition for allowance.

Regarding claims 13 and 14, the Examiner states that the prior art fails to teach or render obvious the use of a second internal and external forwarding table to forward to a second corresponding forwarding engine, and the multiplexing of the second internal and external forwarding tables. Applicant submits that imprecision inherent in the Examiner's paraphrase of claims 13 and 14 for the purpose of providing a statement of reasons for allowance cannot be imputed to alter the scope or meaning of claims 13 or 14; rather, the scope and meaning of claims 13 and 14 is based on the actual text of claims 13 and 14 in the context of the application as a whole.

In conclusion, Applicant has overcome all of the Office's rejections, and early notice of allowance to this effect is earnestly solicited. If, for any reason, the Office is unable to allow the Application on the next Office Action, and believes a telephone interview would be helpful, the Examiner is respectfully requested to contact the undersigned attorney.

Respectfully submitted,

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